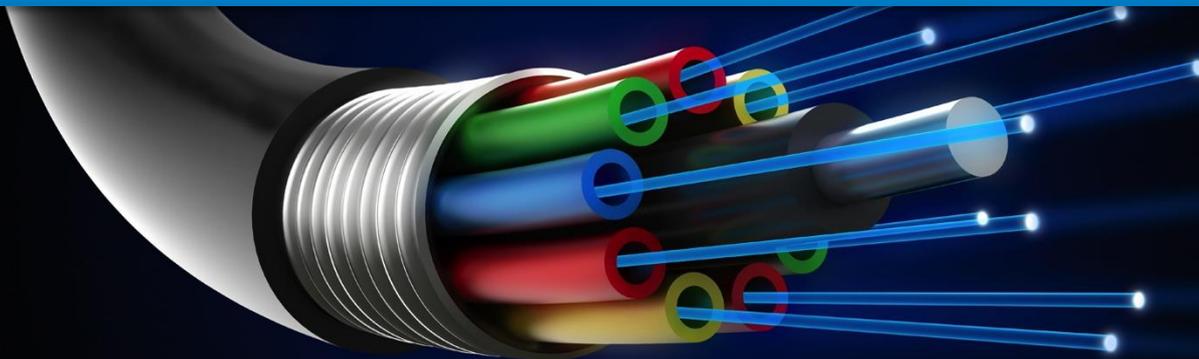


Mechatronic Component Search for Electronic and Fluid Design

15th CADENAS Industry-Forum 2014

Joachim Frank



Topics

- Overview Zuken / E3.series
- How does the CADENAS Electronic Product Catalog help in the search for and creation of components for the E-CAD system E³.series?
- Data Transfer Supported using eCI@ss 8 Advanced
 - Who is eCI@ss?
- Using the Data for Schematics, Cabling, Fluidics and Panel Layout
- How does the E-CAD user benefit?



Sales and Support Organization

More Than 30 Offices Worldwide



Zuken GmbH
European
Headquarters

Zuken Inc.
Worldwide
Headquarters

Zuken USA Inc.
North American
Headquarters



Zuken GmbH
European Headquarters
Munich, Germany



Zuken Inc.
Worldwide Headquarters
Yokohama, Japan



Zuken USA Inc.
North American Headquarters
Westford, Massachusetts

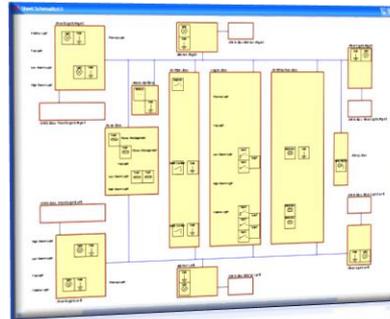
Zuken's Vision

Requirements Management to Design Realization

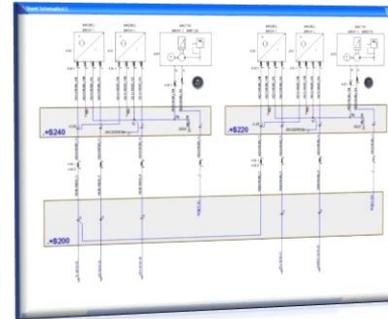
Requirements Management



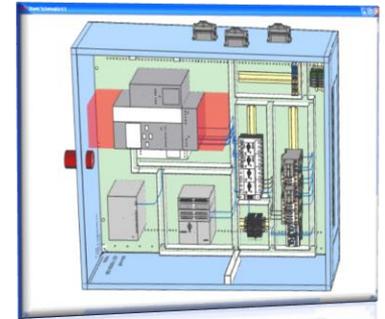
Topology and Functional Planning



Circuit Engineering



Panel Layout

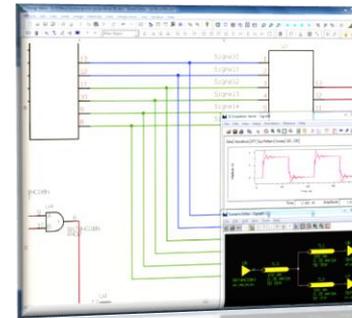


e-PLM Library and Design Data Management

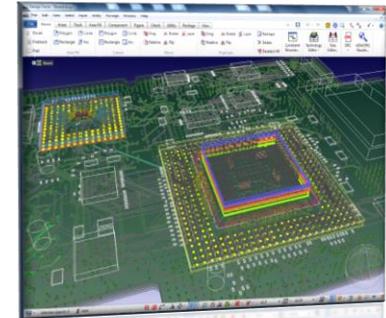
Platform Standardization



System Planning



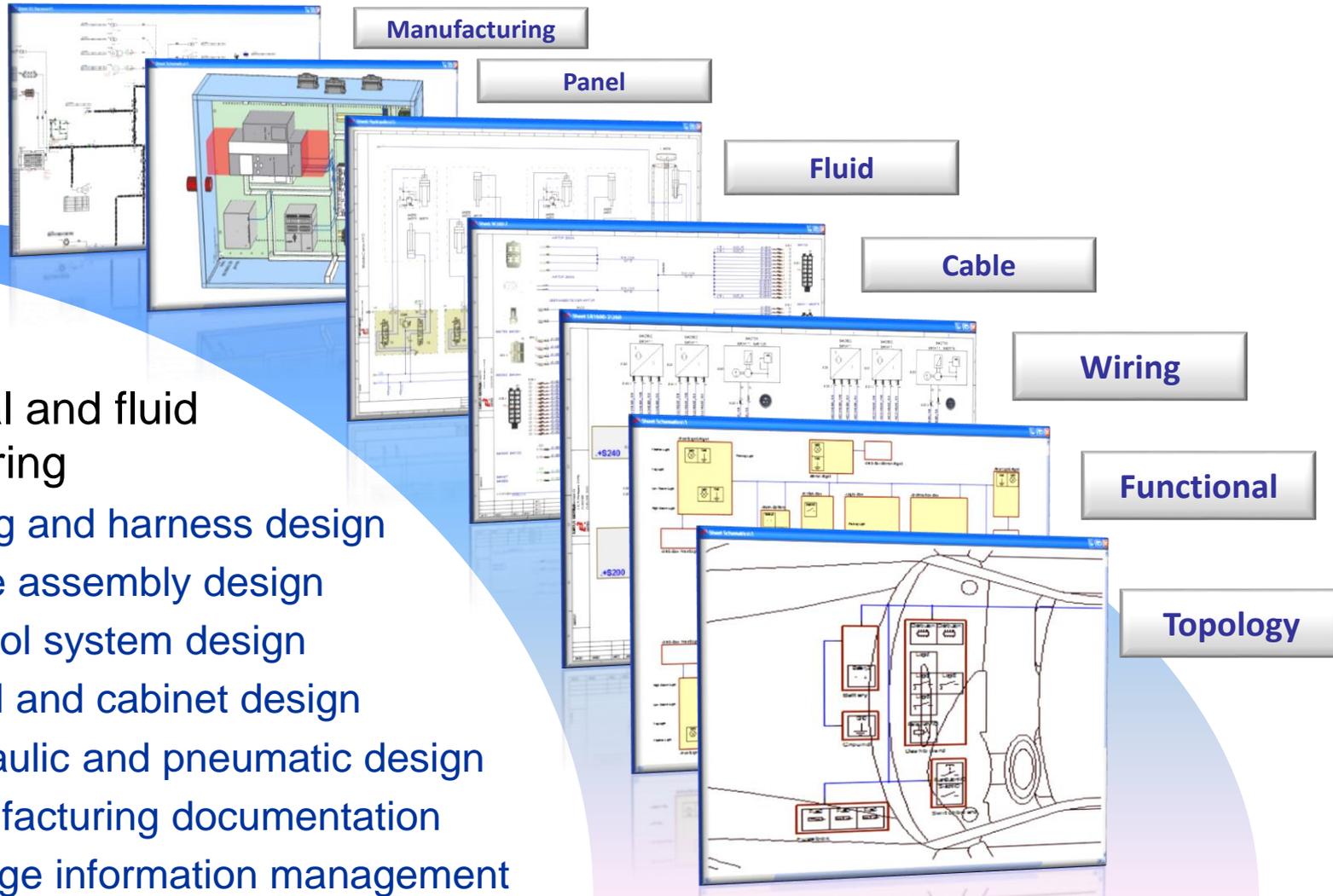
Circuit Engineering



PCB and Package Layout

Zuken Solution

E³.series Wiring, Cable, Fluid, Control Systems

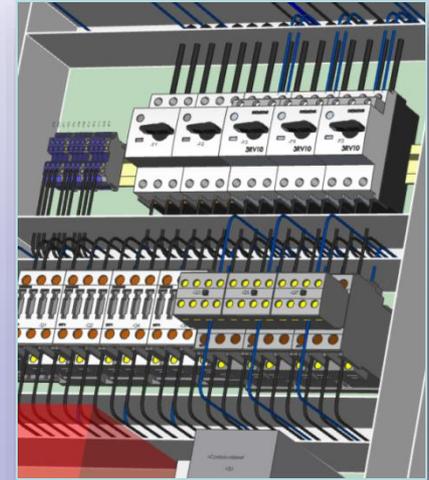


- Electrical and fluid engineering
 - Wiring and harness design
 - Cable assembly design
 - Control system design
 - Panel and cabinet design
 - Hydraulic and pneumatic design
 - Manufacturing documentation
 - Change information management

Why E³.series?

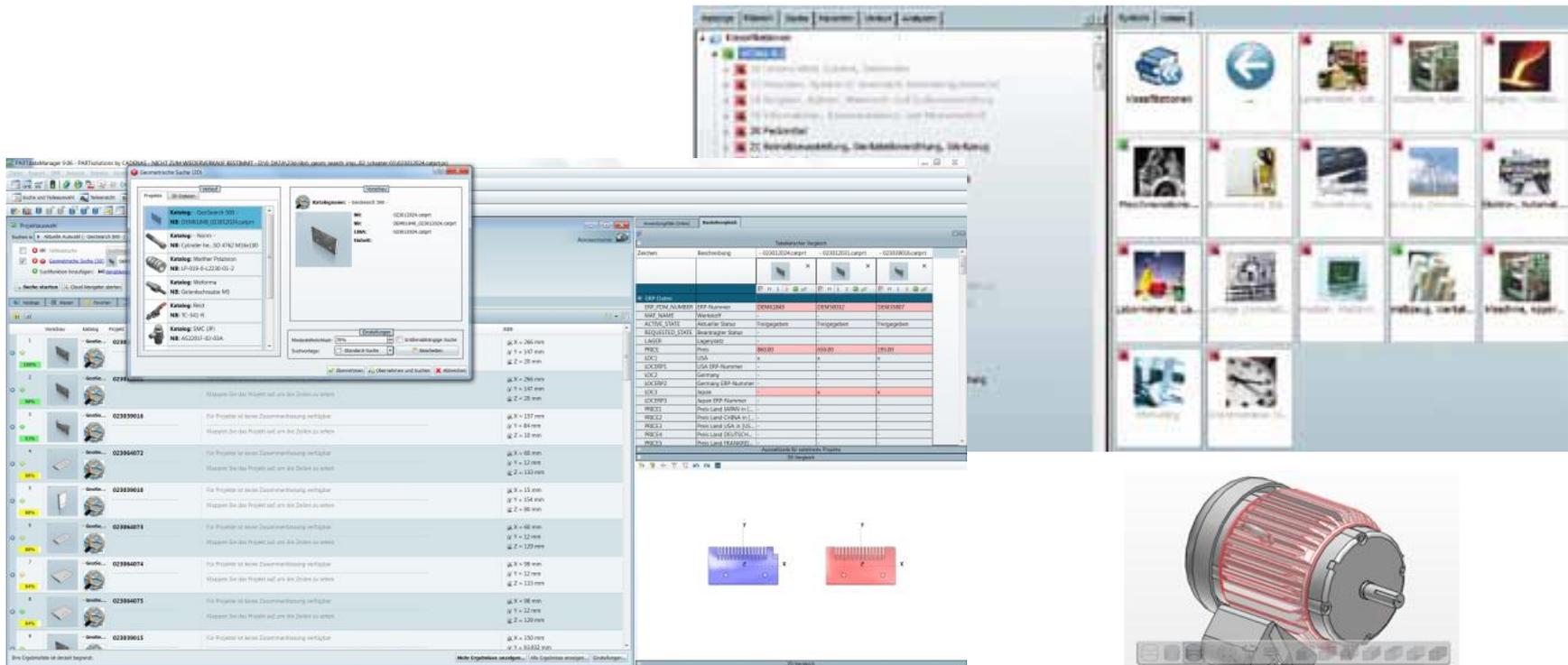


- Complete electrical and fluid design from concept to manufacturing
- All design information in all phases is kept in sync, reducing errors and rework
- Comprehensive change management ensures nothing slips through the net
- Manufacturing reports linked to real-time design data ensure accuracy
- Collaboration with all aspects of design, linking 3D mechanical data for harness creation and product lifecycle management



Mechatronic Component Search for Electronic and Fluid Design

- How does the CADENAS Electronic Product Catalog help in the search for and creation of components for the E-CAD system E³.series?
 - Search for components from different M-CAD, E-CAD and Fluid manufacturers in one central location



Mechatronic Component Search for Electronic and Fluid Design

- Portal: <http://zuken.partcommunity.com>
 - Component catalog containing mechatronic components
 - Comfortable search, filter and preview functionality

The screenshot displays the Zuken Part Community portal interface. On the left, a search results table lists various components. The main area shows a 3D model of a component with a 'Vorschau' (Preview) window. Below the model, a detailed technical specification table is visible.

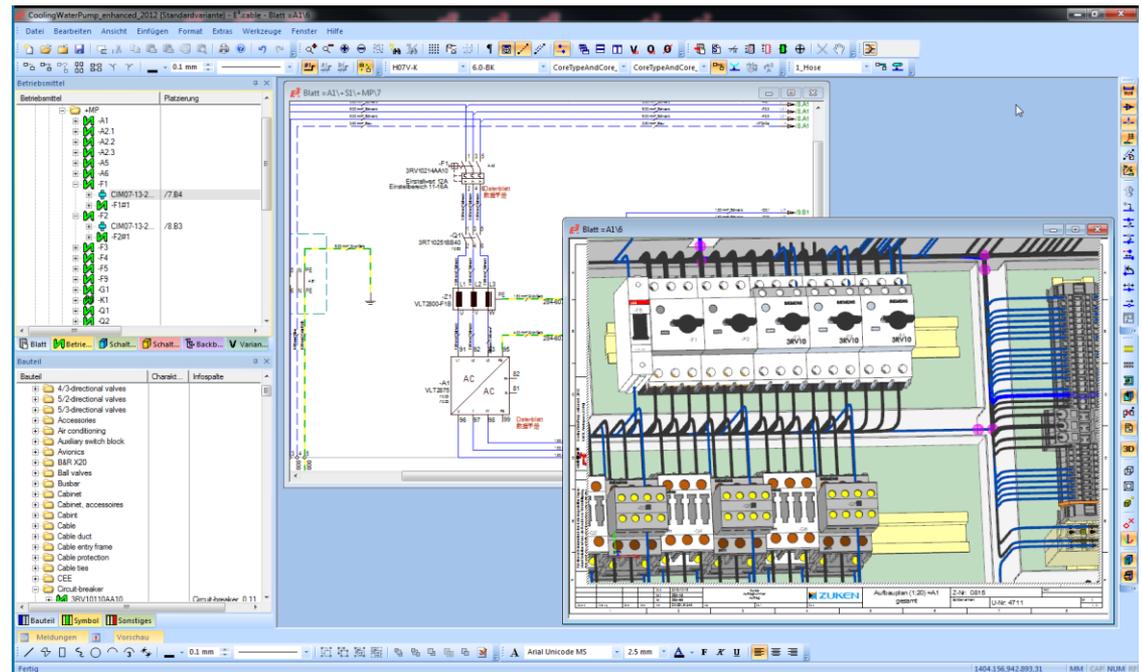
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10	191341 MNZH-2X3G-01-S-ZSR	1	MNZH-2X3G-01-S-ZSR	
11	191340 MNZH-2X3G-01-ZSR	1	MNZH-2X3G-01-ZSR	
12	187976 MNZH-2X3G-02	0	MNZH-2X3G-02	

PRODUKT	Produktbild	Wert
IDNR	Identifikation	110311
MANUFACTURE12	Herstellertypbezeichnung	N2-160-BT
DESCRIPTION13	Kurzbeschreibung	Lasttrennschalter 3p 160A Klemmen
DESCRIPTION14	Langbeschreibung	Lasttrennschalter N... erfüllen die Trenneigenschaften auch für geerdete IT-Netze. Zubehöre wie z. B. Brückenbausätze, Anschlussklemmen und Türkupplungsdrücker gestalten den individuellen Einbau in die unterschiedlichsten Verteilersysteme. Hilsschalter, Spannungsauslöser und Fernantriebe ermöglichen Signalisierung und Automatisierung. Hinweise: Hauptschaltereigenschaften einschließlich Zwangsläufigkeit nach IEC/EN 60204 und VDE 0113. Trenneigenschaften nach IEC/EN 60947-3 und VDE 0660. Berührungsschutz nach VDE 0160 Teil 100.
EAN	EAN	40 15081098590
CNSECCLASS512	ECLASS 5.1.2	27-37-14-03

Web Service



- Web Service Integration
 - Integration of CADENAS Web Service planned as plug-in in E³.series
 - E³ interface can be used to search for components directly in the CADENAS Web Service



Data Transfer

- CADENAS data independent of the CAD system
- Data transferred using standard eCI@ss format
- Automated import in E3.series library



Who is eCl@ss?



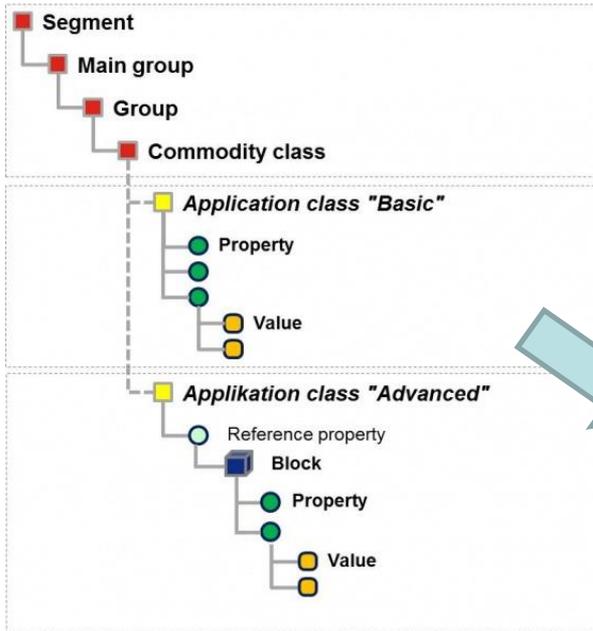
The international eCl@ss association, 143 members



Oct 2013, 143 members

www.eclass.eu

eCl@ss Structure



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Workflow Example

- The CADENAS Portal contains different component manufacturer catalogs.
- Each catalog contains numerous different products.
- The E3 user selects one or more products / packages and starts the transfer to E3.series.
- In the background the relevant data (component meta data, symbols, models) of the selected product(s) is transferred to E3.series using a standardized exchange format.
- The components are available to the user and can be used in his/her project.

Using the Data for Schematics, Cabling, Fluid and Panel Layout

- Component is described completely for E³.series
 - Component meta data
 - Pins with
 - Position, pin type as well as cross-section / diameter information
 - Assignment of pins between symbols and models

The image displays three windows from the Zuken E3 software interface:

- Component Properties:** Shows metadata for component 3044076, including version (1), manufacturer (Zuken E3 GmbH), and a table of technical specifications.
- Database Editor:** Shows a tree view of the component's data structure, including sub-entries for Component, Model, and Symbol.
- Schematic Diagram:** Shows a vertical terminal strip with a component symbol (a blue square with '1') and a 3D model (a grey terminal strip) connected by red dashed lines. Annotations include 'Schematic symbol' and '3D model' in blue text, and 'Component data' in blue text pointing to the Component Properties window.

Name	Entry
Article number	3044076
Class	Terminal
Description	Feed-through terminal block; UT 2,5; Connection meth...
Main Class	Electric
Supplier	Phoenix Contact
Data sheet	data sheet ref="3044076_UT_2_5_de.pdf"
Database Class English	Terminal
Database Class German	Klemme
Database Description English	Feed-through terminal block; UT 2,5; Connection meth...
Database Description German	Durchgangsklemme; UT 2,5; Anschlussart: Schraubanschl...
Database User	BB
EAN Number	4017918960377
Hyperlink	http://eshop.phoenixcontact.de/phoenix/treeViewClick...
New Feature	2012
Technical description 1	2,5 mm ²
Technical description 2	1000 V
Technical description 3	24 A
Weight	0.00816 kg

Using the Data for Schematics, Cabling, Fluid and Panel Layout

- Example: E³.schematic and E³.panel

The image displays a software interface for E³ design, showing three interconnected views:

- Schematic symbol:** A circuit diagram window titled "Sheet 03-circuit diagram\8" showing a component labeled "-XT3" with terminals 1, 2, and 10. Terminal 2 is connected to a 6A B-Char. fuse (-F9). Terminal 10 is connected to a 75-DBU terminal block. The component is identified as "H05V-K 0.75-DBU".
- Component data:** A "Project window" on the left lists devices under "-XT3 =A1", showing a list of 11 devices with their respective part numbers (e.g., 3031306, 3031322, 3031319, 3031319, 3031319, 3037423, 3031306).
- 3D model:** A 3D perspective view of the terminal block assembly, showing the physical layout of the terminals and the routing of cables (blue and yellow) connecting to the panel layout.

Annotations and labels include:

- Routing:** A blue arrow points from the 3D model to the schematic, and a yellow arrow points from the 3D model to the panel layout.
- 3D model:** A blue arrow points from the 3D model to the schematic.
- Schematic symbol:** A blue arrow points from the schematic to the component data.
- Component data:** A blue arrow points from the component data to the schematic.

Additional labels in the schematic include "+S1.MP" and "-XT3 10". The panel layout shows a terminal block labeled "ABB" and a fuse labeled "-F9".

How does the E-CAD user benefit?



- Without the time-consuming process of searching for the correct commercial, technical, component and symbol data...
 - the user can select components from the component manufacturer E³ library
 - the user can create a customer-specific library tailored to his/her specific needs
 - reduced subsequent reworking

Outlook

- The Development is on going!
- CADENAS is an Exhibitor at ZIW in Ulm.
- Presentation of Prototype from CADENAS Webservice integrated in E3.series



A large, 3D-style blue question mark with a white shadow, positioned above the word "Questions".

Questions

Please visit us in the exhibition area!



ZUKEN

The Partner for Success